

# Section C - Description/Specifications/Statement of Work

## STATEMENT OF WORK

### NRL EMW Research Support, Maintenance, and Configuration Services

## 1.0 BACKGROUND

### 1.1 Overview

The U.S. Naval Research Laboratory performs research in support of many programs, some of which involve electromagnetic experiments that are conducted at the Electromagnetic Maneuver Warfare Research Facility (EMWRF) located at NRL's Chesapeake Bay Detachment (CBD), at other land based research sites, and aboard vessels operating inland, coastwise and at sea.

### 1.2 Scope of Work

NRL has a requirement for a Contractor to perform installation, maintenance, configuration and removal services to support electromagnetic experimentation. This includes but is not limited to:

- Routine maintenance of facility infrastructure and distribution systems including, but not limited to power systems, cooling systems, facility foundation, supports, physical security, dry air systems, and CONEX shelters.
- Repair of facility infrastructure
- Environmental maintenance (i.e. corrosion control, fencing) of facility infrastructure
- Configuration (i.e. install, move, reinstall) of CONEX shelters, systems/subsystems (i.e. arrays, equipment racks), and infrastructure (i.e. cable troughs, auxiliary systems)
- Modification and fabrication (i.e. physical, electrical) of shelters and infrastructure
- Chartering, Outfitting, Provisioning, Modifying and Restoring of vessels to support experiments.
- Material Transportation and Rigging.
- Port Facilities to support Installation and Removal of experimental equipment from vessels.

The Government's Contracting Officer's Representative (COR) will order unscheduled tasks via Technical Direction Memoranda (TDM) (email, written minutes of conversation, and/or drawings).

At the discretion of the COR direct equipment maintenance, operation, repair and/or connection of electric power, Heating, Ventilation, Air Conditioning (HVAC) and other liquid cooling or dry air systems/equipment at the Chesapeake Bay Detachment site may be performed by an alternate supplier.

## 2.0 GENERAL REQUIREMENTS

The Contractor **shall** have its support team in place and fully functioning within 30 days of contract award.

During this period the contractor will transition all activities from the incumbent, as required. The Contractor must execute the scope of work in a manner that provides for high quality, timely services while incorporating the proper mix and the most effective use of personnel.

## 2.1 Non-Personal Services

The Government will neither supervise contractor employees nor control the method by which the contractor performs the required tasks.

The Government will not assign tasks to, or prepare work schedules for, individual contractor employees.

The Contractor **shall** be responsible for managing its employees and guarding against any actions that are of the nature of personal services, or give the perception of personal services as defined in FAR-Part 37, Service Contracting, dated 31 May 2011.

The Contractor **shall** notify the Contracting Officer (KO) if any Government requested actions constitute, or are perceived to constitute, personal services.

## 2.2 Business Relations

The Contractor **shall** integrate and coordinate all activity needed to execute this contract.

## 2.3 Contract Administration and Management

The following subsections specify requirements for contract management and Contractor personnel administration.

### 2.3.1 Contract Management

The Contractor **shall** establish clear organizational lines of authority and responsibility to ensure effective management of the resources assigned to this contract.

### 2.3.2 Personnel Administration

The Contractor **shall** assign a single point of contact, also known as the Program Manager (PM), who must work close with the government Contracting Officer and Contracting Officer's Representative (COR), as applicable. The contractor must ultimately be responsible for ensuring that the contractor's performance meets all government contracting requirements within cost and schedule. PM must have the requisite authority for full control over all company resources necessary for contract performance. As appropriate, the role of PM may be a part time management position, or a full duty assigned to a technical team member.

The Contractor **shall** maintain the adequacy of their employees by providing initial and refresher training to meet the requirements.

The Contractor **shall** make necessary travel arrangements for employees.

### 2.3.3 Contract Administration

The Contractor **shall** establish processes and assign appropriate resources to effectively administer this contract.

## 2.4 Contractor Furnished Equipment, Materials, Subcontracts and Supplies

Equipment and unexpended materials and supplies purchased by the contractor under this contract become the property of

the Government at the end of the performance period, including all options.

The Contractor **shall** provide supplies for contractor personnel.

The Contractor **shall** provide any other equipment, material, and supplies, not furnished by the Government, but required to perform the work defined under Section 3, Performance Requirements, below.

## 2.5 Location and Hours of Work

Accomplishment of the tasks contained in this SOW requires work primarily at the Chesapeake Bay Detachment (CBD) of the Naval Research Laboratory, 5813 Bayside Rd., Chesapeake Md. 20732. Secondary research sites at Tilghman Island, MD, Naval Air Station Patuxent River MD, NASA Flight Facility Wallops Island, VA and NRL, Washington, DC are also included in this Statement of Work. Other sites will be identified as needed. Normal Government workdays are Monday through Friday except US Federal Holidays. Government workers typically work eight (8) hours per day, 40 hours per week. Flextime Government workers usually start no earlier than 0600 and no later than 0900. Government core hours of work are from 0900 to 1500 daily. Please see Attachment 4 for Requirements for Onsite Workers

The Contractor work day is defined as eight (8) hours within a 24 Hr. period which overlap the government core hours unless otherwise approved by the COR.

The Contractor **shall** have a physically secure work facility in the case that repairs or modifications are to be made away from the CBD. This facility must have sufficient enclosed working space to accommodate two (2) 40' modified ISO containers simultaneously.

## 2.6 Travel / Temporary Duty (TDY)

Travel to the CBD and the secondary test sites noted above are considered local travel. Travel to other government facilities or Contractor facilities may be required, and is on a strictly cost reimbursable basis. The Contractor **shall** conduct out of area travel only when directed/authorized by the COR.

The Contractor **shall** make necessary travel arrangements for employees.

The Contractor **shall** be able to provide two (2) persons within one day plus travel of notification for deployment to support work described in this Statement of Work at any location within the United States. The persons are to deploy with tooling for mechanical or electrical work necessary to maintain or repair EMWRF related equipment. The Contractor **shall** bill costs for travel in accordance with FAR 31.205-46 Travel Costs (subject to local policy & procedures).

# 3.0 TECHNICAL REQUIREMENTS

## 3.1 Routine maintenance of facility infrastructure

The Contractor **shall** inspect mechanical, electrical, and hydraulic connections and devices on a quarterly basis, or more often in the event of weather or some other occurrence that might damage the facility.

The Contractor **shall** make preparations, along with the Navy and other Original Equipment Manufacturers (OEM), both EMWRF Systems and infrastructure, to limit the impact of expected/forecast weather or other events that might damage the facility.

The Contractor **shall** perform routine maintenance on power distribution systems (less than 600 volts). Responsibilities are from the installed power pallets to and into the various EMWRF CONEX Shelters, up to but not including the installed EMWRF systems.

The Contractor **shall** perform routine maintenance on signal and control cables and wiring, including conduit and connections, between the various EMWRF CONEX Shelters.

The Contractor **shall** perform routine maintenance on cooling hoses and connections. Responsibilities are from the chiller pallets to and into the various EMWRF CONEX Shelters, up to but not including the installed EMWRF systems.

The Contractor **shall** perform routine maintenance on dry air hoses and connections. Responsibilities are from the dry air pallets to and into the various EMWRF CONEX Shelters, up to but not including the installed EMWRF systems.

The Contractor **shall** perform routine maintenance on facility foundations; CONEX, cable troughs and other supports; and facility security fencing and related hardware.

## 3.2 Repair of facility infrastructure

Due to weather conditions and usage, connections and devices often develop excessive wear and failures, which may require various adjustments, repairs, and/or modification to suit present operating conditions. The Contractor **shall** order and install conversion or replacement parts as needed. The Contractor **shall** coordinate with the Government, the Original Equipment Manufacturers (Air Conditioners, Emergency Generators, Dry Air Generator, Chillers, and Power Pallets) and/or other contracted maintenance services when repairs and maintenance of such infrastructure equipment/machinery are determined to be required.

The Contractor **shall** provide all materials required for routine repairs. Materials needed would typically consist of, but not be limited to, aluminum, steel, re-enforced fiberglass plate or formed shapes (channel “I”, etc.) and a host of utility support components for the power, chiller and dry air distribution systems.

In order to minimize down-time for the facility, the Contractor **shall** perform emergency repair tasks as required by the NRL COR on a 24/7 emergency on call basis. To support this effort the Contractor will establish a quick response team with at least the following skills: electronic assemblers, mechanics, certified steel/aluminum welders, and equipment to perform emergency repair tasks. The Contractor **shall** use a temporary fix when called to correct a problem for which the quick response team cannot install a permanent solution. The Contractor **shall** determine/recommend a permanent solution within 2 working days of a temporary fix being used in an emergency repair. When directed by the COR the Contractor **shall** initiate the recommended solution and coordinate with the Government, the Original Equipment Manufacturers and/or other contracted maintenance services when repairs are beyond the Contractor’s capability.

The Contractor **shall** repair power distribution systems (less than 600 volts). Responsibilities are from the installed power pallets to and into the various EMWRF CONEX Shelters, up to but not including the installed EMWRF systems.

The Contractor **shall** repair signal and control cables and wiring, including conduit and connections, between the various EMWRF CONEX Shelters.

The Contractor **shall** repair cooling hoses and connections. Responsibilities are from the chiller pallets to and into the various EMWRF CONEX Shelters, up to but not including the installed EMWRF systems.

The Contractor **shall** repair dry air hoses and connections. Responsibilities are from the dry air pallets to and into the various EMWRF CONEX Shelters, up to but not including the installed EMWRF systems.

The Contractor **shall** repair facility foundations; CONEX, cable troughs and other supports; and facility security fencing and related hardware.

### 3.3 Environmental maintenance of facility infrastructure

At CBD equipment is exposed to the harsh coastal environment on a daily basis, and is subject to occasional storm damage. The Contractor **shall** implement a corrosion prevention and remediation program to maintain EMWRF shelters, systems, and infrastructure in a high state of material readiness. The Contractor **shall** clean equipment, remove corrosion, and apply primers and paints appropriate for each item. Sensitive EMWRF System equipment including transmit and receive arrays will be maintained by the system manufacturer or other responsible organization.

The Contractor **shall** repair or replace facility security fencing and related hardware when it is damaged by nature, accident or impacted by testbed reconfiguration.

The facility has a metallic grid embedded in the concrete foundation, with connection points on the surface, which acts as a ground plane for all electrical equipment. The Contractor **shall** repair the facility ground plane and foundation when it is damaged by nature, accident or impacted by testbed reconfiguration.

### 3.4 Configuration of CONEX shelters, systems/subsystems, and infrastructure

Being a modular testbed, the quantity, type, and location of fixtures is expected to vary. Sometimes entire systems will be replaced, other times just components. The Contractor **shall** install, move, and reinstall CONEX Shelters. The Contractor **shall** remove and reinstall EMWRF systems/subsystems including installed Arrays, racks and other sub units. Disassembly and reassembly of the EMWRF systems and Facility infrastructure machinery for removal and/or reinstallation will be performed by the Navy, the original system/equipment manufacturer and/or other contracted maintenance services. The Contractor **shall** remove, move, and reinstall other EMWRF infrastructure items. Such items may include, but are not limited to, cable troughs and supports; power, cooling, dry air, control and signal distribution systems; and facility security fencing and related hardware. The Contractor **shall** remove, move, and reinstall in place other EMWRF infrastructure items such as dry air, chiller and power pallets; emergency generators; and other associated facility machinery.

Every configuration event will be different, but the following tasks are typical. The Contractor **shall** provide labor, material and equipment on site at the CBD and/or other identified secondary sites to disassemble and remove a system from its present location. The Contractor **shall** remove installed arrays, racks and other sub units using Contractor-provided crane service, lifts and personnel. The Contractor **shall** pack and ship material which is no longer needed onsite. The Contractor **shall** provide crating and arrange for transportation if not provided by the system or original equipment manufacturer. The Contractor **shall** reinstall radar absorbing material and mend putty work. The Contractor **shall** examine the existing EMI and/or weather gasket material for damage or distortion and replace if required. The Contractor **shall** follow the manufacturer's directions to remove new equipment from its crating, rig, and install on a pallet or in a shelter. The Contractor **shall** physically secure the equipment in place. The Contractor **shall** connect all electrical cabling, signal cabling, and service piping up to but not including the installed EMWRF systems. The Contractor **shall** install or replace connectors as required.

### 3.5 Modification and fabrication of shelters and infrastructure

There is typically a need to modify components in order to support changes in operations, experiments, and configurations. The Contractor **shall** fabricate/procure and install additional cable troughs, supports, ladders/stairs, cables (power and signal/control), hoses, piping, conduit, and applicable mechanical and electrical/electronic connections.

The Contractor **shall** modify cable troughs, supports, ladders/stairs, cables (power and signal/control), hoses, piping, conduit, and applicable connections.

The Contractor **shall** modify CONEX shelters as necessary to incorporate new and/or altered EMWRF systems.

The Contractor **shall** modify CONEX shelters and other EMWRF Infrastructure as necessary to relocate within the

EMWRF facility and the external test sites as noted in par 2.5. The Contractor **shall** coordinate all modification work with the NRL COR in order to minimize interference with the operational readiness of the facility. The expected time and materials required will also be estimated and planned at that time.

The Contractor **shall** be prepared to perform minor modification tasks as required by the NRL COR on a 24/7 emergency on call basis. To support this effort the Contractor will establish a quick response team with at least the following skills: electronic assemblers, mechanics, certified steel/aluminum welders, and equipment to perform emergency modification tasks.

### 3.6 Support for experiments aboard vessels

The Contractor **shall** provide vessels as required to support experiments on the water. Vessel types may include but are not limited to Tugs/Barges, Offshore Support Vessels, Container Ships and Semi-submersible Vessels. The Contractor **shall** provide necessary port services to accomplish installation and removal of the experimental and support equipment aboard vessels. The Contractor **shall** provide support equipment such as electrical generators, fuel tanks, chillers as required.

## 4.0 SPECIAL REQUIREMENTS

This section describes the special requirements for this effort. The following sub-sections provide details of various considerations on this effort.

### 4.1 Quality Assurance

The Contractor **shall** be ISO 9001 certified.

### 4.2 Code Compliance

The Contractor **shall** provide tradesmen licensed to work in VA, MD or DC, as applicable.

The Contractor **shall** complete all electrical work in accordance with the National Electric Code NFPA 70-2020.

### 4.3 Security

Contractor personnel performing work on classified systems under this contract must have a Secret clearance, or be under the direct observation/escort of a responsible individual with a Secret clearance. At a minimum, the Contractor shall provide at least one individual on their quick response team with Secret clearance and able to perform this function in the event that a responsible Government or other suitable support individual is not available. The security requirements are in accordance with the subsections below.

#### 4.3.1 DD Form 254

The Contractor **shall** be granted access to classified information necessary for performance of this contract upon contract award as specified in the basic DD Form 254.

### 4.4 Safety

The Contractor **shall** comply with the NRL Occupational Safety and Health Manual 5100.13C, the Safety Related Work Practices NFPA 70E-2021, and the NRL Security Manual, 5510.40D with respect to all Contractor employees working at NRL.

The Contractor **shall** assist NRL in its on-going safety program, which entails taking a proactive approach towards providing a safe and healthy workplace.

The Contractor **shall** provide expertise and support with respect to: compliance with Government safety provisions, on-site identification and elimination of safety and environmental hazards, facilitating the correction of safety and environmental deficiencies reported by building monitors and/or identified during the annual NRL Safety and Environmental Inspection(s), and to otherwise provide supplementary safety training, educational support and Personal Protective Equipment (PPE), as needed.

## 4.5 Reporting

The Contractor **shall** submit report in accordance with the DD 1423 Contract Data Requirements List attached to the solicitation.